



July 12, 2012

Mr. Mark Nations  
The Doe Run Company  
P.O. Box 1633  
Desloge, Missouri 63601

**Re: Ambient Air Monitoring Report – Leadwood Site**

Dear Mr. Nations:

Please find attached the April 2012 “*Ambient Air Monitoring Report*” for The Doe Run Company at the Chat Pile Reclamation Area Sites, located near Leadwood, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **TSP, Lead & PM<sub>10</sub> Particulate Summaries** – Includes the averages of each monitored parameter, which relates to the federal standards.
- **Particulate and Lead Analysis Spreadsheets.**
- **Lab Results (lead & cadmium)** – Lab reports from Inovatia Laboratories, LLC.
- **Meteorological Data Printouts** – This supplies printouts of each parameter.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,

A handwritten signature in black ink that reads "Richard J. Campbell".

Richard J. Campbell, PE  
Chemical Engineer  
Senior Environmental Consultant

c: Kathy Rangen  
Jason Gunter  
Ty Morris

01WF 4.2  
A standard 1D barcode with vertical black bars of varying widths on a white background.  
0100 40392125

***Ambient Air Monitoring Report***

***Chat Pile Reclamation Area  
Leadwood, Missouri***

***Prepared for  
The Doe Run Company***

***April 2012***



***Ambient Air Monitoring Report***

***Chat Pile Reclamation Area  
Leadwood, Missouri***

***The Doe Run Company***

***April 2012***



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Jefferson City, MO 65109  
Phone: (573) 638-5000  
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### GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
mph	Miles per Hour
Wind Direction	Degrees from True North
TSP	Total Suspended Particulate
PM <sub>10</sub>	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

### NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM <sub>10</sub> – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$
Lead	Rolling 3-Month Average	Arithmetic Mean	0.15 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

\*This standard must be exceeded more than once a year to constitute a violation.



## TSP and Lead Concentration Summary

Chat Pile Reclamation Area  
Leadwood, Missouri

2012

Date	TSP Big River #4 ( $\mu\text{g}/\text{m}^3$ )	TSP South #1 ( $\mu\text{g}/\text{m}^3$ )	TSP East #2 ( $\mu\text{g}/\text{m}^3$ )	TSP North #3 ( $\mu\text{g}/\text{m}^3$ )	LEAD Big River #4 ( $\mu\text{g}/\text{m}^3$ )	LEAD South #1 ( $\mu\text{g}/\text{m}^3$ )	LEAD East #2 ( $\mu\text{g}/\text{m}^3$ )	LEAD North #3 ( $\mu\text{g}/\text{m}^3$ )
4/2/12	78	61	64	56	0.040	0.007	0.010	0.000
4/3/12	31	29	25	29	0.007	0.000	0.000	0.000
4/4/12	33	32	28	27	0.012	0.013	0.008	0.006
4/5/12	35	21	24	21	0.010	0.000	0.000	0.000
4/6/12	22	22	21	21	0.006	0.000	0.000	0.000
4/9/12	36	25	22	22	0.033	0.009	0.000	0.000
4/10/12	37	27	27	27	0.038	0.009	0.018	0.000
4/11/12	44	37	32	32	0.029	0.013	0.009	0.000
4/12/12	51	40	41	35	0.008	0.000	0.007	0.000
4/13/12	38	39	33	33	0.000	0.000	0.000	0.000
4/16/12	24	27	16	24	0.008	0.000	0.000	0.000
4/17/12	18	14	16	14	0.010	0.000	0.007	0.000
4/18/12	22	17	17	14	0.009	0.000	0.000	0.000
4/19/12	37	41	36	39	0.020	0.006	0.007	0.000
4/20/12	21	12	9	11	0.000	0.000	0.000	0.000
4/23/12	28	19	18	23	0.024	0.006	0.000	0.000
4/24/12	38	35	33	37	0.017	0.029	0.020	0.016
4/25/12	52	43	47	48	0.016	0.009	0.008	0.000
4/26/12	48	58	49	46	0.020	0.023	0.000	0.000
4/27/12	35	28	34	28	0.012	0.008	0.000	0.000
4/30/12	24	17	16	16	0.012	0.000	0.000	0.000
<b>Monthly Average</b>	36	31	29	29	0.016	0.006	0.004	0.001
<b>Mar 2012</b>					0.016	0.005	0.004	0.003
<b>Feb 2012</b>					0.017	0.011	0.007	0.006
<b>Rolling 3-month Average</b>					0.02	0.01	0.01	0.00
					<b>3-month Average Lead NAAQS <math>\mu\text{g}/\text{m}^3</math> 0.15</b>			

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



## Particulate Summary

Chat Pile Reclamation Area  
Leadwood, Missouri

2012

Date	PM <sub>10</sub> Big River #4 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> South #1 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> East #2 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> North #3 ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> NAAQS ( $\mu\text{g}/\text{m}^3$ )
3-Apr	21	14	19	15	150
6-Apr	12	9	14	INVALID	150
9-Apr	19	13	15	11	150
12-Apr	20	12	19	11	150
15-Apr	40	30	39	16	150
18-Apr	11	8	9	9	150
21-Apr	INVALID	7	9	6	150
24-Apr	14	11	13	11	150
27-Apr	25	20	25	18	150
30-Apr	15	12	15	12	150
<b>Monthly Average</b>	20	14	18	12	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

*Particulate and Lead Analysis*



# TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4557

Big River Site #4- Primary

Sample Date	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. µg	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>f</sub> mmHg	Ratio P <sub>f</sub> /P <sub>a</sub>	Q <sub>s</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Concentration TSP µg/m <sup>3</sup>	Mass Concentration Lead µg/m <sup>3</sup>
4/2/2012	8552225	0.1350	70	24	738.0	36.1	0.951	1.244	1.210	23.72	1723	78	0.040
4/3/2012	8552216	0.0526	11	20	740.5	35.8	0.952	1.238	1.226	23.08	1698	31	0.007
4/4/2012	8552208	0.0568	21	17	738.4	35.1	0.952	1.232	1.231	23.28	1719	33	0.012
4/5/2012	8552997	0.0826	17	11	740.6	34.5	0.953	1.223	1.248	23.59	1787	35	0.010
4/6/2012	8552988	0.0391	11	9	748.1	34.2	0.954	1.219	1.288	23.65	1800	22	0.008
4/9/2012	8552977	0.0627	58	13	747.6	34.7	0.954	1.227	1.256	23.25	1752	36	0.033
4/10/2012	8552968	0.0663	66	11	747.9	34.4	0.954	1.222	1.263	23.54	1784	37	0.038
4/11/2012	8552959	0.0780	52	7	750.5	34.0	0.955	1.216	1.277	23.38	1791	44	0.029
4/12/2012	8552949	0.0926	14	10	749.3	34.3	0.954	1.221	1.288	23.68	1801	51	0.008
4/13/2012	8552940	0.0886	< 10	12	746.3	34.5	0.954	1.225	1.257	23.70	1788	38	0.000
4/16/2012	8552930	0.0428	13	14	745.5	34.8	0.953	1.229	1.250	23.65	1773	24	0.008
4/17/2012	8552922	0.0323	18	13	751.5	34.7	0.954	1.227	1.264	23.63	1792	18	0.010
4/18/2012	8552912	0.0383	15	15	747.7	34.9	0.953	1.230	1.251	23.55	1766	22	0.009
4/19/2012	8552903	0.0642	34	17	742.4	35.2	0.953	1.234	1.236	23.70	1757	37	0.020
4/20/2012	8593293	0.0386	< 10	12	741.6	34.5	0.953	1.224	1.249	23.69	1775	21	0.000
4/23/2012	8593283	0.0496	43	9	745.6	34.2	0.954	1.220	1.263	23.64	1791	28	0.024
4/24/2012	8593274	0.0684	30	15	739.7	35.0	0.953	1.230	1.236	23.65	1754	38	0.017
4/25/2012	8593265	0.0908	28	19	735.7	35.6	0.952	1.236	1.219	23.65	1730	52	0.016
4/26/2012	8593255	0.0822	34	22	741.0	35.8	0.952	1.240	1.222	23.31	1708	48	0.020
4/27/2012	8593246	0.0621	21	12	744.8	34.8	0.954	1.225	1.254	23.74	1786	36	0.012
4/30/2012	8593237	0.0417	21	20	743.6	35.5	0.952	1.238	1.232	23.62	1746	24	0.012

Data Captured	TSP	Lead
Valid Samples:	21	21
Scheduled Samples:	21	21
Percent Data Captured:	100%	100%

Monthly Average:	36	0.016
Standard Deviation:	14	0.012
Maximum:	78	0.040
Minimum:	18	0.000

## NOTES

## DEFINITIONS and CALCULATIONS

T<sub>av</sub> = average temperature in degrees Celsius  
 P<sub>av</sub> = average station pressure in millimeters of mercury  
 P<sub>f</sub> = (((Temp in °Kelvin \* Temp Slope)) + Temp Int.) \* 1.868  
 P<sub>f</sub> = ((Temp in °Kelvin \* 0.0684) + (-0.4213)) \* 1.868  
 P<sub>f</sub>/P<sub>a</sub> = pressure ratio of P<sub>f</sub> and P<sub>av</sub> = 1 - P<sub>f</sub>/P<sub>av</sub>  
 Q<sub>s</sub> = look up table volumetric flow rate  
 Q<sub>std</sub> = total sample volumetric flow rate corrected to standard conditions  
 V<sub>std</sub> = total sample volume corrected to standard conditions  
 TSP = mass concentration in µg/std m<sup>3</sup>  
 Lead = mass concentration in µg/std m<sup>3</sup>



# TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4559

Leadwood Site #1 Wortham

Sample Date 2012	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. µg	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>i</sub> mmHg	Ratio P <sub>i</sub> /P <sub>a</sub>	Q <sub>a</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Concentrations TSP µg/m <sup>3</sup>	Lead µg/m <sup>3</sup>
4/2/2012	8552219	0.1042	13	24	738.0	36.1	0.951	1.250	1.216	23.60	1722	61	0.007
4/3/2012	8552210	0.0517	< 10	20	740.5	35.6	0.952	1.243	1.231	23.75	1754	29	0.000
4/4/2012	8552207	0.0555	23	17	738.4	35.1	0.952	1.237	1.237	23.75	1782	32	0.013
4/5/2012	8552091	0.0379	< 10	11	740.6	34.5	0.953	1.229	1.254	23.67	1781	21	0.000
4/6/2012	8552082	0.0392	< 10	9	748.1	34.2	0.954	1.225	1.274	23.73	1815	22	0.000
4/9/2012	8552079	0.0455	16	13	747.6	34.7	0.954	1.232	1.262	23.71	1795	25	0.009
4/10/2012	8552089	0.0489	16	11	747.9	34.4	0.954	1.228	1.269	23.80	1812	27	0.009
4/11/2012	8552080	0.0888	24	7	750.5	34.0	0.955	1.222	1.283	23.71	1828	37	0.013
4/12/2012	8552051	0.0727	< 10	10	749.3	34.3	0.954	1.227	1.273	23.68	1809	40	0.000
4/13/2012	8552041	0.0708	< 10	12	746.3	34.5	0.954	1.230	1.263	23.71	1796	39	0.000
4/16/2012	8552032	0.0480	< 10	14	745.5	34.8	0.953	1.234	1.255	23.68	1784	27	0.000
4/17/2012	8552018	0.0244	< 10	13	751.5	34.7	0.954	1.232	1.269	23.32	1776	14	0.000
4/18/2012	8552013	0.0304	< 10	15	747.7	34.9	0.953	1.236	1.257	23.67	1785	17	0.000
4/19/2012	8593297	0.0714	10	17	742.4	35.2	0.953	1.239	1.241	23.67	1763	41	0.006
4/20/2012	8593294	0.0208	< 10	12	741.6	34.5	0.953	1.229	1.255	23.74	1787	12	0.000
4/23/2012	8593285	0.0334	12	9	745.9	34.2	0.954	1.226	1.269	23.65	1800	19	0.006
4/24/2012	8593275	0.0816	50	15	739.7	35.0	0.953	1.236	1.242	23.70	1786	35	0.029
4/25/2012	8593266	0.0750	16	19	735.7	35.5	0.952	1.242	1.224	23.77	1746	43	0.009
4/26/2012	8593257	0.1020	41	22	741.0	35.8	0.952	1.246	1.227	23.69	1745	58	0.023
4/27/2012	8593247	0.0511	15	12	744.8	34.6	0.954	1.230	1.260	23.75	1795	28	0.008
4/30/2012	8593238	0.0302	< 10	20	743.6	35.5	0.952	1.243	1.237	23.64	1754	17	0.000

Data Captured	TSP	Lead
Valid Samples:	21	21
Scheduled Samples:	21	21
Percent Data Captured:	100%	100%

Monthly Average:	31	0.006
Standard Deviation:	13	0.006
Maximum:	61	0.029
Minimum:	12	0.000

## NOTES

## DEFINITIONS and CALCULATIONS

T<sub>av</sub> = average temperature in degrees Celsius  
 P<sub>av</sub> = average station pressure in millimeters of mercury  
 P<sub>i</sub> = (((Temp in °Kelvin \* Temp Slope) + Temp Int.)) \* 1.868  
 P<sub>a</sub> = ((Temp in °Kelvin \* 0.0064) + (-0.4213)) \* 1.868  
 P<sub>i</sub>/P<sub>a</sub> = pressure ratio of P<sub>i</sub> and P<sub>av</sub> = 1 - P<sub>i</sub>/P<sub>av</sub>  
 Q<sub>a</sub> = look up table volumetric flow rate  
 Q<sub>std</sub> = total sample volumetric flow rate corrected to standard conditions  
 V<sub>std</sub> = total sample volume corrected to standard conditions  
 TSP = mass concentration in µg/std m<sup>3</sup>  
 Lead = mass concentration in µg/std m<sup>3</sup>



# TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P4476

Leadwood Site #2 - Office

Sample Date 2012	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. µg	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>i</sub> mmHg	Ratio P <sub>i</sub> /P <sub>av</sub>	Q <sub>a</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Concentrations TSP µg/m <sup>3</sup>	Lead µg/m <sup>3</sup>
4/2/2012	8552221	0.1062	17	24	738.0	36.1	0.951	1.233	1.200	23.78	1712	64	0.010
4/3/2012	8552212	0.0438	< 10	20	740.5	35.6	0.952	1.228	1.215	23.98	1748	25	0.000
4/4/2012	8552209	0.0480	14	17	738.4	35.1	0.952	1.221	1.220	23.59	1727	28	0.008
4/5/2012	8552993	0.0423	< 10	11	740.6	34.5	0.953	1.212	1.237	23.78	1766	24	0.000
4/6/2012	8552984	0.0375	< 10	9	748.1	34.2	0.954	1.209	1.257	23.93	1805	21	0.000
4/9/2012	8552981	0.0394	< 10	13	747.6	34.7	0.954	1.216	1.245	23.88	1784	22	0.000
4/10/2012	8552971	0.0490	32	11	747.9	34.4	0.954	1.211	1.252	23.99	1802	27	0.018
4/11/2012	8552982	0.0571	16	7	750.5	34.0	0.955	1.206	1.268	23.55	1789	32	0.009
4/12/2012	8552953	0.0732	13	10	749.3	34.3	0.954	1.210	1.256	23.95	1805	41	0.007
4/13/2012	8552943	0.0581	< 10	12	746.3	34.5	0.954	1.214	1.246	23.86	1784	33	0.000
4/16/2012	8552934	0.0286	< 10	14	745.5	34.8	0.953	1.218	1.239	23.97	1781	16	0.000
4/17/2012	8552918	0.0279	13	13	751.5	34.7	0.954	1.216	1.252	23.34	1754	16	0.007
4/18/2012	8552915	0.0309	< 10	15	747.7	34.9	0.953	1.219	1.240	23.85	1774	17	0.000
4/19/2012	8593299	0.0829	12	17	742.4	35.2	0.953	1.222	1.224	23.75	1745	36	0.007
4/20/2012	8593298	0.0159	< 10	12	741.6	34.5	0.953	1.213	1.238	23.82	1769	9	0.000
4/23/2012	8593287	0.0329	< 10	9	745.9	34.2	0.954	1.209	1.252	23.89	1779	18	0.000
4/24/2012	8593277	0.0574	34	15	739.7	35.0	0.953	1.219	1.225	23.92	1758	33	0.020
4/25/2012	8593268	0.0817	13	19	735.7	35.5	0.952	1.225	1.208	23.67	1730	47	0.008
4/26/2012	8593259	0.0841	< 10	22	741.0	35.8	0.952	1.230	1.211	23.82	1731	49	0.000
4/27/2012	8593249	0.0804	< 10	12	744.8	34.8	0.954	1.214	1.243	23.74	1770	34	0.000
4/30/2012	8593240	0.0282	< 10	20	743.6	35.5	0.952	1.227	1.220	23.73	1738	16	0.000

Data Captured	TSP	Lead
Valid Samples:	21	21
Scheduled Samples:	21	21
Percent Data Captured:	100%	100%

Monthly Average:	29	0.004
Standard Deviation:	13	0.006
Maximum:	64	0.020
Minimum:	9	0.000

## NOTES

## DEFINITIONS and CALCULATIONS

$T_{av}$  = average temperature in degrees Celsius  
 $P_{av}$  = average station pressure in millimeters of mercury  
 $P_i$  =  $((Temp \text{ in } ^\circ\text{Kelvin} \cdot Temp \text{ Slope}) + Temp \text{ Int.}) \cdot 1.888$   
 $P_i$  =  $((Temp \text{ in } ^\circ\text{Kelvin} \cdot 0.0664) + (-0.4213)) \cdot 1.868$   
 $P_i/P_{av}$  = pressure ratio of  $P_i$  and  $P_{av}$  =  $1 - P_i/P_{av}$   
 $Q_a$  = look up table volumetric flow rate  
 $Q_{std}$  = total sample volumetric flow rate corrected to standard conditions  
 $V_{std}$  = total sample volume corrected to standard conditions  
 TSP = mass concentration in  $\mu\text{g}/\text{std m}^3$   
 Lead = mass concentration in  $\mu\text{g}/\text{std m}^3$



# TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P6793

Leadwood Site #3 by School

Sample Date 2012	Filter ID	TSP Filter Net Wt. g	Lead Total Wt. µg	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>i</sub> mmHg	Ratio P <sub>i</sub> /P <sub>av</sub>	Q <sub>a</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Concentrations TSP µg/m <sup>3</sup>	Lead µg/m <sup>3</sup>
4/2/2012	8552220	0.0957	< 10	24	738.0	36.1	0.951	1.231	1.197	23.80	1710	56	0.000
4/3/2012	8552211	0.0510	< 10	20	740.5	35.8	0.952	1.224	1.213	23.79	1731	29	0.000
4/4/2012	8552208	0.0481	10	17	738.4	35.1	0.952	1.218	1.217	23.84	1741	27	0.008
4/5/2012	8552892	0.0370	< 10	11	740.6	34.5	0.953	1.210	1.234	23.75	1759	21	0.000
4/6/2012	8552883	0.0374	< 10	9	748.1	34.2	0.954	1.208	1.254	23.86	1798	21	0.000
4/8/2012	8552980	0.0387	< 10	13	747.6	34.7	0.954	1.213	1.242	23.83	1776	22	0.000
4/10/2012	8552970	0.0480	< 10	11	747.9	34.4	0.954	1.209	1.249	23.79	1783	27	0.000
4/11/2012	8552981	0.0579	< 10	7	750.5	34.0	0.955	1.203	1.263	23.76	1801	32	0.000
4/12/2012	8552952	0.0632	< 10	10	749.3	34.3	0.954	1.208	1.254	23.74	1788	35	0.000
4/13/2012	8552942	0.0590	< 10	12	748.3	34.5	0.954	1.211	1.243	23.73	1770	33	0.000
4/16/2012	8552933	0.0428	< 10	14	745.5	34.8	0.953	1.215	1.236	23.86	1789	24	0.000
4/17/2012	8552917	0.0236	< 10	13	751.5	34.7	0.954	1.213	1.250	23.33	1749	14	0.000
4/18/2012	8552914	0.0254	< 10	15	747.7	34.9	0.953	1.216	1.237	23.78	1785	14	0.000
4/19/2012	8593298	0.0887	< 10	17	742.4	35.2	0.963	1.220	1.222	23.90	1753	39	0.000
4/20/2012	8593295	0.0188	< 10	12	741.6	34.5	0.953	1.211	1.235	23.85	1788	11	0.000
4/23/2012	8593288	0.0418	< 10	9	745.9	34.2	0.954	1.207	1.248	23.72	1777	23	0.000
4/24/2012	8593278	0.0850	28	15	739.7	35.0	0.953	1.218	1.222	23.74	1741	37	0.018
4/25/2012	8593287	0.0823	< 10	19	735.7	35.5	0.952	1.223	1.208	23.81	1723	48	0.000
4/26/2012	8593258	0.0801	< 10	22	741.0	35.8	0.952	1.227	1.209	23.80	1726	46	0.000
4/27/2012	8593248	0.0490	< 10	12	744.8	34.6	0.954	1.211	1.240	23.83	1773	28	0.000
4/30/2012	8593239	0.0273	< 10	20	743.6	35.5	0.952	1.225	1.218	23.86	1730	18	0.000

<b>Data Captured</b>	<b>TSP</b>	<b>Lead</b>	<b>Monthly Average:</b>	<b>29</b>	<b>0.001</b>
Valid Samples:	21	21	Standard Deviation:	12	0.004
Scheduled Samples:	21	21	Maximum:	56	0.018
Percent Data Captured:	100%	100%	Minimum:	11	0.000

NOTES

**DEFINITIONS and CALCULATIONS**

T<sub>av</sub> = average temperature in degrees Celsius  
P<sub>av</sub> = average station pressure in millimeters of mercury  
P<sub>i</sub> = (((Temp in °Kelvin \* Temp Slope) + Temp Int.) \* 1.888  
P<sub>i</sub> = ((Temp in °Kelvin \* 0.0884) + (-0.4213)) \* 1.888  
P<sub>i</sub>/P<sub>av</sub> = pressure ratio of P<sub>i</sub> and P<sub>av</sub> = 1 - P<sub>i</sub>/P<sub>av</sub>

Q<sub>a</sub> = look up table volumetric flow rate  
Q<sub>std</sub> = total sample volumetric flow rate corrected to standard conditions  
V<sub>std</sub> = total sample volume corrected to standard conditions  
TSP = mass concentration in µg/std m<sup>3</sup>  
Lead = mass concentration in µg/std m<sup>3</sup>



# TSP and Lead Analysis

The Doe Run Company

SAMPLER ID P6609

Big River Site #4 - QA

Sample Date 2012	Filter ID	TSP Filter Net WL g	Lead Total WL µg	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>f</sub> mmHg	Ratio P <sub>f</sub> /P <sub>av</sub>	Q <sub>s</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Concentrations TSP µg/m <sup>3</sup>	Lead µg/m <sup>3</sup>
4/3/2012	8552226	0.0539	11	20	740.5	35.6	0.952	1.229	1.217	23.67	1729	31	0.007
4/5/2012	8552998	0.0625	16	11	740.6	34.5	0.953	1.214	1.239	23.88	1775	35	0.009
4/10/2012	8552978	0.0898	63	11	747.9	34.4	0.954	1.214	1.254	23.93	1801	39	0.035
4/12/2012	8552950	0.0895	14	10	749.3	34.3	0.954	1.213	1.259	23.75	1794	50	0.008
4/17/2012	8552931	0.0304	17	13	751.5	34.7	0.954	1.218	1.254	23.88	1797	17	0.010
4/19/2012	8552904	0.0827	37	17	742.4	35.2	0.953	1.225	1.227	23.85	1741	38	0.021
4/24/2012	8593284	0.0842	34	15	739.7	35.0	0.953	1.221	1.227	23.83	1755	37	0.019
4/28/2012	8593256	0.0954	34	22	741.0	35.8	0.952	1.232	1.214	23.38	1702	56	0.020

Valid Samples:	8	8
Scheduled Samples:	8	8
Percent Data Captured:	100%	100%

Monthly Average:	38	0.016
Standard Deviation:	12	0.010
Maximum:	56	0.035
Minimum:	17	0.007

## NOTES

## DEFINITIONS and CALCULATIONS

T<sub>av</sub> = average temperature in degrees Celsius

P<sub>av</sub> = average station pressure in millimeters of mercury

P<sub>f</sub> = (((Temp in Kelvin \* Temp Slope) + Temp Int.)) \* 1.888

P<sub>f</sub> = ((Temp in Kelvin \* 0.0684) + (-0.4213)) \* 1.868

P<sub>f</sub>/P<sub>av</sub> = pressure ratio of P<sub>f</sub> and P<sub>av</sub> = 1 - P<sub>f</sub>/P<sub>av</sub>

Q<sub>s</sub> = look up table volumetric flow rate

Q<sub>std</sub> = total sample volumetric flow rate corrected to standard conditions

V<sub>std</sub> = total sample volume corrected to standard conditions

TSP = mass concentration in µg/std m<sup>3</sup>

Lead = mass concentration in µg/std m<sup>3</sup>



# PM<sub>10</sub> Analysis

The Doe Run Company

SAMPLER ID P2952		Big River Site #4- Primary										
Sample Date 2012	Filter ID	PM10 Filter Net Wt. g	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>f</sub> mmHg	Ratio P <sub>f</sub> /P <sub>a</sub>	Q <sub>a</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Conc. PM <sub>10</sub> μg/m <sup>3</sup>	
4/3/2012	272135	0.0335	20	740.5	35.6	0.952	1.143	1.132	23.74	1612	21	
4/6/2012	272128	0.0197	9	748.1	34.2	0.954	1.126	1.172	23.69	1666	12	
4/9/2012	272117	0.0318	13	747.6	34.7	0.954	1.133	1.160	23.69	1649	19	
4/12/2012	272107	0.0328	10	749.3	34.3	0.954	1.128	1.171	23.70	1665	20	
4/15/2012	272298	0.0642	20	738.9	35.6	0.952	1.143	1.129	23.68	1604	40	
4/18/2012	272288	0.0174	15	747.7	34.9	0.953	1.136	1.158	23.64	1639	11	
4/21/2012	272277	0.0294	10	744.3	34.3	0.954	1.128	1.162	23.42	1633	INVALID	
4/24/2012	272269	0.0228	15	739.7	35.0	0.953	1.136	1.142	23.96	1641	14	
4/27/2012	272259	0.0414	12	744.8	34.6	0.954	1.131	1.158	23.68	1646	25	
4/30/2012	272250	0.0234	20	743.6	35.5	0.952	1.143	1.137	23.65	1614	15	
		Valid Samples: 9		Scheduled Samples: 10		Percent Data Captured: 90%		Monthly Average: 20		Standard Deviation: 9		
								Maximum: 40		Minimum: 11		

## NOTES

4/21/2012 - INVALID - Mechanical Failure; Burned Motor—Observed Smoke Deposited on Filter

## DEFINITIONS and CALCULATIONS

T<sub>av</sub> = average temperature in degrees Celsius

P<sub>av</sub> = average station pressure in millimeters of mercury

P<sub>f</sub> = ((Temp in °Kelvin \* Temp Slope))+Temp Int.)\*1.868

P<sub>i</sub> = ((Temp in °Kelvin \* 0.0664)+(-0.4213))\*1.868

P<sub>f</sub>/P<sub>a</sub> = pressure ratio of P<sub>f</sub> and P<sub>av</sub> = 1 - P<sub>f</sub>/P<sub>av</sub>

Q<sub>a</sub> = look up table volumetric flow rate

Q<sub>std</sub> = sample volumetric flow rate corrected to standard conditions

V<sub>std</sub> = sample volume corrected to standard conditions







# PM<sub>10</sub> Analysis

The Doe Run Company

SAMPLER ID P6071										Leadwood Site #3 by School	
Sample Date 2012	Filter ID	PM10 Filter Net Wt. g	T <sub>av</sub> C	P <sub>av</sub> mmHg	P <sub>f</sub> mmHg	Ratio P <sub>f</sub> /P <sub>a</sub>	Q <sub>a</sub> m <sup>3</sup> /min	Q <sub>std</sub> m <sup>3</sup> /min	Elapsed Time hr	Sample Volume V <sub>std</sub> m <sup>3</sup>	Mass Conc. PM <sub>10</sub> µg/m <sup>3</sup>
4/3/2012	272140	0.0247	20	740.5	35.6	0.952	1.167	1.158	23.57	1635	15
4/6/2012	272124	0.0063	9	748.1	34.2	0.954	1.150	1.197	9.82	691	INVALID
4/9/2012	272114	0.0187	13	747.6	34.7	0.954	1.157	1.185	23.58	1675	11
4/12/2012	272105	0.0192	10	749.3	34.3	0.954	1.152	1.198	23.58	1692	11
4/15/2012	272295	0.0258	20	738.9	35.6	0.952	1.167	1.153	23.78	1645	16
4/18/2012	272285	0.0142	15	747.7	34.9	0.953	1.160	1.180	23.59	1670	9
4/21/2012	272282	0.0107	10	744.3	34.3	0.954	1.152	1.187	23.55	1677	6
4/24/2012	272266	0.0178	15	739.7	35.0	0.953	1.160	1.166	23.59	1650	11
4/27/2012	272257	0.0305	12	744.8	34.6	0.954	1.155	1.183	23.54	1671	18
4/30/2012	272248	0.0200	20	743.6	35.5	0.952	1.167	1.161	23.58	1643	12
Valid Samples:		9		Monthly Average:		12		Standard Deviation:		4	
Scheduled Samples:		10		Maximum:		18		Minimum:		6	
Percent Data Captured:		90%									
<b>NOTES</b>											
4/06/2012 - INVALID - Mechanical Failure											
<b>DEFINITIONS and CALCULATIONS</b>											
T <sub>av</sub> = average temperature in degrees Celcius						P <sub>f</sub> /P <sub>a</sub> = pressure ratio of P <sub>f</sub> and P <sub>av</sub> = 1 - P <sub>f</sub> /P <sub>av</sub>					
P <sub>av</sub> = average station pressure in millimeters of mercury						Q <sub>a</sub> = look up table volumetric flow rate					
P <sub>f</sub> = ((Temp in °Kelvin * Temp Slope))+Temp Int.)*1.868						Q <sub>std</sub> = sample volumetric flow rate corrected to standard conditions					
P <sub>f</sub> = ((Temp in °Kelvin * 0.0664)+(-0.4213))*1.868						V <sub>std</sub> = sample volume corrected to standard conditions .					



***Lab Results (Lead and Cadmium)***



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**ANALYSIS REPORT**

**Client Information:**  
 Barr Engineering Company  
 7390 Ohms Lane  
 Edina, MN 55439-2330

**Chain of Custody No.:** 12-0356  
**Date Received:** 04/19/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
121956	8552219	04/02/12	#1 South - Wortham	13	< 10	05/08/12 - DS
121957	8552221	04/02/12	#2 East - Office	17	< 10	05/08/12 - DS
121958	8552220	04/02/12	#3 North - School	< 10	< 10	05/08/12 - DS
121959	8552210	04/03/12	#1 South - Wortham	< 10	< 10	05/08/12 - DS
121960	8552212	04/03/12	#2 East - Office	< 10	< 10	05/08/12 - DS
121961	8552211	04/03/12	#3 North - School	< 10	< 10	05/08/12 - DS
121962	8552207	04/04/12	#1 South - Wortham	23	< 10	05/08/12 - DS
121963	8552209	04/04/12	#2 East - Office	14	< 10	05/08/12 - DS
121964	8552208	04/04/12	#3 North - School	10	< 10	05/08/12 - DS
121965	8552991	04/05/12	#1 South - Wortham	< 10	< 10	05/08/12 - DS
121966	8552993	04/05/12	#2 East - Office	< 10	< 10	05/08/12 - DS
121967	8552992	04/05/12	#3 North - School	< 10	< 10	05/08/12 - DS
121968	8552982	04/06/12	#1 South - Wortham	< 10	< 10	05/08/12 - DS
121969	8552984	04/06/12	#2 East - Office	< 10	< 10	05/08/12 - DS
121970	8552983	04/06/12	#3 North - School	< 10	< 10	05/08/12 - DS

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**ANALYSIS REPORT**

**Client Information:**  
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**Chain of Custody No.:** 12-0399  
**Date Received:** 05/02/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
122109	8552979	04/09/12	#1 South - Wortham	16	< 10	05/10/12 - DS
122110	8552981	04/09/12	#2 East - Office	< 10	< 10	05/10/12 - DS
122111	8552980	04/09/12	#3 North - School	< 10	< 10	05/10/12 - DS
122112	8552969	04/10/12	#1 South - Wortham	16	< 10	05/10/12 - DS
122113	8552971	04/10/12	#2 East - Office	32	< 10	05/10/12 - DS
122114	8552970	04/10/12	#3 North - School	< 10	< 10	05/10/12 - DS
122115	8552960	04/11/12	#1 South - Wortham	24	< 10	05/10/12 - DS
122116	8552962	04/11/12	#2 East - Office	16	< 10	05/10/12 - DS
122117	8552961	04/11/12	#3 North - School	< 10	< 10	05/10/12 - DS
122118	8552951	04/12/12	#1 South - Wortham	< 10	< 10	05/10/12 - DS
122119	8552953	04/12/12	#2 East - Office	13	< 10	05/10/12 - DS
122120	8552952	04/12/12	#3 North - School	< 10	< 10	05/10/12 - DS
122121	8552941	04/13/12	#1 South - Wortham	< 10	< 10	05/10/12 - DS
122122	8552943	04/13/12	#2 East - Office	< 10	< 10	05/10/12 - DS
122123	8552942	04/13/12	#3 North - School	< 10	< 10	05/10/12 - DS

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**ANALYSIS REPORT**

**Client Information:**  
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**Chain of Custody No.:** 12-0400  
**Date Received:** 05/02/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
122156	8552932	04/16/12	#1 South - Wortham	< 10	< 10	05/15/12 - DS
122157	8552934	04/16/12	#2 East - Office	< 10	< 10	05/15/12 - DS
122158	8552933	04/16/12	#3 North - School	< 10	< 10	05/15/12 - DS
122159	8552916	04/17/12	#1 South - Wortham	< 10	< 10	05/15/12 - DS
122160	8552918	04/17/12	#2 East - Office	13	< 10	05/15/12 - DS
122161	8552917	04/17/12	#3 North - School	< 10	< 10	05/15/12 - DS
122162	8552913	04/18/12	#1 South - Wortham	< 10	< 10	05/15/12 - DS
122163	8552915	04/18/12	#2 East - Office	< 10	< 10	05/15/12 - DS
122164	8552914	04/18/12	#3 North - School	< 10	< 10	05/15/12 - DS
122165	8593297	04/19/12	#1 South - Wortham	10	< 10	05/15/12 - DS
122166	8593299	04/19/12	#2 East - Office	12	< 10	05/15/12 - DS
122167	8593298	04/19/12	#3 North - School	< 10	< 10	05/15/12 - DS
122168	8593294	04/20/12	#1 South - Wortham	< 10	< 10	05/15/12 - DS
122169	8593296	04/20/12	#2 East - Office	< 10	< 10	05/15/12 - DS
122170	8593295	04/20/12	#3 North - School	< 10	< 10	05/15/12 - DS

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**ANALYSIS REPORT**

**Client Information:**  
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**Chain of Custody No.:** 12-0430  
**Date Received:** 05/09/12  
**Analysis Method:** 40 CFR §50  
 Appendix G

**Location:** Leadwood

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
122330	8593285	04/23/12	#1 South - Wortham	12	< 10	05/18/12 - DS
122331	8593287	04/23/12	#2 East - Office	< 10	< 10	05/18/12 - DS
122332	8593286	04/23/12	#3 North - School	< 10	< 10	05/18/12 - DS
122333	8593275	04/24/12	#1 South - Wortham	50	< 10	05/18/12 - DS
122334	8593277	04/24/12	#2 East - Office	34	< 10	05/18/12 - DS
122335	8593276	04/24/12	#3 North - School	28	< 10	05/18/12 - DS
122336	8593266	04/25/12	#1 South - Wortham	16	< 10	05/18/12 - DS
122337	8593268	04/25/12	#2 East - Office	13	< 10	05/18/12 - DS
122338	8593267	04/25/12	#3 North - School	< 10	< 10	05/18/12 - DS
122339	8593257	04/26/12	#1 South - Wortham	41	< 10	05/18/12 - DS
122340	8593259	04/26/12	#2 East - Office	< 10	< 10	05/18/12 - DS
122341	8593258	04/26/12	#3 North - School	< 10	< 10	05/18/12 - DS
122342	8593247	04/27/12	#1 South - Wortham	15	< 10	05/18/12 - DS
122343	8593249	04/27/12	#2 East - Office	< 10	< 10	05/18/12 - DS
122344	8593248	04/27/12	#3 North - School	< 10	< 10	05/18/12 - DS
122345	8593238	04/30/12	#1 South - Wortham	< 10	< 10	05/18/12 - DS
122346	8593240	04/30/12	#2 East - Office	< 10	< 10	05/18/12 - DS
122347	8593239	04/30/12	#3 North - School	< 10	< 10	05/18/12 - DS

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**ANALYSIS REPORT**

**Client Information:**  
 Barr Engineering Company  
 7390 Ohms Lane  
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**Chain of Custody No.:** 12-0356  
**Date Received:** 04/19/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Big River

Lab No:	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
121934	8552225	04/02/12	#4 Primary	70	< 10	05/09/12 - DS
121935	8552216	04/03/12	#4 Primary	11	< 10	05/09/12 - DS
121936	8552226	04/03/12	#4 QA	11	< 10	05/09/12 - DS
121937	8552206	04/04/12	#4 Primary	21	< 10	05/09/12 - DS
121938	8552997	04/05/12	#4 Primary	17	< 10	05/09/12 - DS
121939	8552998	04/05/12	#4 QA	16	< 10	05/09/12 - DS
121940	8552988	04/06/12	#4 Primary	11	< 10	05/09/12 - DS

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**ANALYSIS REPORT**

**Client Information:**  
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 7390 Ohms Lane  
 Edina, MN 55439-2330

**Chain of Custody No.:** 12-0399  
**Date Received:** 05/02/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
122087	8552977	04/09/12	#4 Primary	58	< 10	05/10/12 - DS
122088	8552968	04/10/12	#4 Primary	68	< 10	05/10/12 - DS
122089	8552978	04/10/12	#4 QA	63	< 10	05/10/12 - DS
122090	8552959	04/11/12	#4 Primary	52	< 10	05/10/12 - DS
122091	8552949	04/12/12	#4 Primary	14	< 10	05/10/12 - DS
122092	8552950	04/12/12	#4 QA	14	< 10	05/10/12 - DS
122093	8552940	04/13/12	#4 Primary	< 10	< 10	05/10/12 - DS

Submitted by: \_\_\_\_\_

*Janice Handrick*  
Digitally signed by Janice Handrick  
 DN: cn=Janice Handrick,  
 o=Inovatia Laboratories, LLC,  
 ou=Quality Assurance,  
 email=jhandrick@inovatia.com,  
 c=US  
 Date: 2012.05.15 15:54:25 -0400

5/15/12

Date

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 http://www.inovatia.com

**ANALYSIS REPORT**

**Client Information:**  
 Barr Engineering Company  
 7390 Ohms Lane  
 Edina, MN 55439-2330

**Chain of Custody No.:** 12-0400  
**Date Received:** 05/02/12  
**Analysis Method:** 40 CFR §50  
 Appendix G  
**Location:** Big River

Lab No.	Filter ID	Date	Site	µg.Pb/Filter	µg Cd/Filter	Date	Analyst
122134	8552930	04/16/12	#4 Primary	13	< 10	05/15/12	- DS
122135	8552922	04/17/12	#4 Primary	18	< 10	05/15/12	- DS
122136	8552931	04/17/12	#4 QA	17	< 10	05/15/12	- DS
122137	8552912	04/18/12	#4 Primary	15	< 10	05/15/12	- DS
122138	8552903	04/19/12	#4 Primary	34	< 10	05/15/12	- DS
122139	8552904	04/19/12	#4 QA	37	< 10	05/15/12	- DS
122140	8593293	04/20/12	#4 Primary	< 10	< 10	05/15/12	- DS

Submitted by: \_\_\_\_\_

*Joseph Vandolich*  
 Digitally signed by Joseph Vandolich  
 DN: cn=Joseph Vandolich,  
 o=Inovatia Laboratories, LLC,  
 ou=Quality Assurance,  
 email=jvandel@inovatia.com,  
 c=US  
 Date: 2012.05.17 10:09:54 -0500

5/16/12

Date

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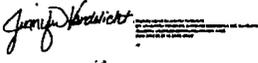
Phone: (660) 248-1911  
Fax: (660) 248-1921  
http://www.inovatia.com

**ANALYSIS REPORT**

**Client Information:**  
Barr Engineering Company  
7390 Ohms Lane  
Edina, MN 55439-2330

**Chain of Custody No.:** 12-0430  
**Date Received:** 05/09/12  
**Analysis Method:** 40 CFR §50  
Appendix G  
**Location:** Big River

Lab No.	Filter ID	Date	Site	µg Pb/Filter	µg Cd/Filter	Date - Analyst
122304	8593283	04/23/12	#4 Primary	43	< 10	05/18/12 - DS
122305	8593274	04/24/12	#4 Primary	30	< 10	05/18/12 - DS
122306	8593284	04/24/12	#4 QA	34	< 10	05/18/12 - DS
122307	8593265	04/25/12	#4 Primary	28	< 10	05/18/12 - DS
122308	8593255	04/26/12	#4 Primary	34	< 10	05/18/12 - DS
122309	8593256	04/26/12	#4 QA	34	< 10	05/18/12 - DS
122310	8593246	04/27/12	#4 Primary	21	< 10	05/18/12 - DS
122311	8593237	04/30/12	#4 Primary	21	< 10	05/18/12 - DS

Submitted by: 

5/21/12  
Date

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***Meteorological Data***

# Meteorological Report

## The Doe Run Company

### Wind Speed

Site Name: Riverlines

Average Interval: 01 Hour

Units: mph

Sampling Frequency: 01 Second

2012 Day	Hour																								24 Hour Avg		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Max	Avg	
1-Apr	0.6	3.9	0.8	0.2	0.4	0.5	0.9	0.9	2.5	5.2	7.3	9.2	8.7	9.1	6.5	7.6	6.7	5.1	5.2	6.1	8.7	6.7	5.9	5.8	9.2	4.8	
2-Apr	5.5	3.6	1.8	2.3	0.1	0.0	0.3	0.4	2.1	1.9	2.4	4.3	5.2	8.1	5.7	6.2	6.0	5.3	4.1	5.7	6.2	5.3	3.0	1.4	6.2	3.5	
3-Apr	0.1	0.3	0.5	0.8	2.5	0.3	0.2	0.5	2.9	5.0	5.0	5.2	6.2	7.6	7.3	5.6	4.9	2.5	3.7	0.9	1.3	0.5	1.3	1.9	7.6	2.8	
4-Apr	1.2	0.0	0.1	0.8	0.7	0.3	0.9	1.9	1.4	2.2	2.8	3.7	4.9	3.8	3.5	4.1	3.0	4.5	8.8	4.2	2.6	2.6	0.0	0.1	6.8	2.3	
5-Apr	0.0	0.6	0.1	2.1	5.8	4.5	2.8	1.3	4.9	5.5	4.8	4.0	5.3	6.3	7.5	6.8	5.2	4.1	1.7	0.1	0.0	0.0	0.2	0.2	7.5	3.1	
6-Apr	0.7	0.4	1.4	1.3	1.8	0.7	1.0	3.7	4.8	5.7	5.5	5.1	5.2	4.7	4.7	4.8	4.2	3.4	1.6	0.2	0.1	0.0	0.2	0.1	5.7	2.5	
7-Apr	0.1	0.1	0.1	0.0	0.2	0.0	0.2	3.2	4.2	3.9	2.3	2.8	2.3	1.8	1.7	2.1	3.0	1.1	0.2	0.3	0.2	0.2	3.5	7.0	7.0	1.7	
8-Apr	4.0	4.0	6.0	6.9	4.8	3.1	0.3	3.4	4.4	6.4	4.2	4.8	4.0	3.3	2.6	2.0	1.5	0.7	0.1	0.1	0.2	0.4	0.1	1.5	6.9	2.9	
9-Apr	2.8	3.1	2.7	3.2	1.9	0.8	1.0	4.3	7.1	5.9	6.4	6.9	6.0	6.0	5.6	4.6	7.2	4.7	1.5	0.1	0.4	0.1	0.1	0.1	7.2	3.4	
10-Apr	0.1	0.1	0.3	0.0	0.1	0.2	3.7	7.1	6.5	6.3	6.6	7.2	7.0	7.8	8.3	7.4	7.4	6.5	4.8	0.7	0.1	0.1	0.3	1.0	6.6	3.8	
11-Apr	1.7	0.3	0.4	0.4	0.2	0.1	0.6	4.1	4.3	4.8	4.1	3.3	4.5	5.7	5.8	5.5	4.5	3.9	1.0	0.3	0.0	0.1	0.1	0.3	5.7	2.3	
12-Apr	0.0	0.1	0.1	0.4	0.5	0.7	0.1	0.3	3.9	7.1	6.1	5.2	5.1	4.3	4.8	2.5	4.1	2.6	3.0	3.2	2.7	1.0	0.7	1.5	7.1	2.5	
13-Apr	1.9	3.6	4.8	3.2	5.0	4.5	5.1	7.4	5.1	3.4	3.1	2.7	4.5	4.7	5.6	6.4	4.5	3.3	4.4	4.9	6.7	6.0	4.6	4.1	7.4	4.6	
14-Apr	2.3	1.3	1.9	1.3	0.5	4.6	5.8	2.8	2.2	2.6	2.1	6.3	10.9	11.0	7.4	8.6	8.3	9.2	8.1	7.6	4.7	5.1	6.1	6.0	11.0	5.3	
15-Apr	6.9	9.0	9.8	11.5	10.3	9.9	9.2	11.1	11.8	13.8	13.5	11.4	11.4	13.0	11.3	10.2	8.6	9.4	12.4	8.3	4.9	8.7	8.3	4.6	13.8	10.0	
16-Apr	4.0	8.0	8.9	10.2	9.8	8.5	6.3	6.9	5.7	7.1	5.5	6.0	5.4	5.6	4.5	4.9	4.4	4.2	1.4	0.1	0.1	0.3	0.1	0.3	10.2	4.9	
17-Apr	1.4	0.5	1.5	2.2	2.4	2.4	1.6	0.3	2.1	2.3	3.9	4.5	4.3	4.7	3.9	4.0	3.7	3.5	2.6	2.7	3.1	1.5	0.3	0.1	4.7	2.5	
18-Apr	0.2	0.1	0.1	0.1	0.0	0.7	0.8	0.6	3.5	5.5	5.5	5.0	5.4	4.4	4.6	3.6	4.3	4.4	4.8	5.5	5.4	5.3	4.7	4.6	5.5	3.3	
19-Apr	3.4	0.9	0.1	0.1	0.0	0.2	0.8	2.3	4.0	7.4	7.1	7.3	7.7	7.7	8.6	9.3	8.7	8.6	6.0	4.1	3.3	5.0	3.1	0.6	9.3	4.4	
20-Apr	1.8	4.5	6.1	6.4	4.1	3.2	0.5	1.9	6.0	7.7	7.2	6.8	7.0	7.6	8.1	7.3	6.2	6.4	7.1	7.3	6.2	4.7	4.6	5.2	8.1	5.6	
21-Apr	6.4	6.2	5.4	5.0	4.1	3.1	3.7	7.7	7.6	8.5	7.1	6.5	5.5	5.2	5.5	4.5	6.1	4.3	2.0	0.2	0.1	0.5	1.1	0.2	8.5	4.4	
22-Apr	0.3	1.5	3.3	2.2	2.3	1.9	0.3	4.0	3.0	2.5	6.7	8.9	10.1	9.4	9.8	9.6	9.6	8.2	6.3	5.5	5.5	6.0	4.3	0.5	10.1	5.1	
23-Apr	0.0	0.1	0.2	1.1	1.1	0.7	1.6	6.4	8.5	9.1	9.4	9.3	8.7	9.2	9.7	8.1	7.7	5.9	4.1	1.3	0.3	1.7	0.7	0.7	9.7	4.4	
24-Apr	1.1	0.2	1.3	0.6	0.1	1.5	2.2	2.1	3.4	4.5	5.5	6.5	8.5	8.4	7.2	8.7	7.7	6.4	3.8	0.5	0.7	1.4	2.4	1.2	8.5	3.5	
25-Apr	0.7	0.7	0.9	0.0	0.0	0.2	0.7	1.0	2.4	4.3	4.0	7.5	9.0	9.3	9.2	8.4	5.9	4.1	3.1	0.8	1.1	0.8	1.0	2.7	9.3	3.2	
26-Apr	2.6	4.1	2.1	2.0	1.6	1.4	1.8	3.8	4.8	7.2	7.1	6.7	7.6	7.2	8.1	7.3	6.4	5.3	3.9	1.6	0.5	0.4	3.3	2.7	8.1	4.2	
27-Apr	2.2	3.7	5.2	4.7	3.8	3.8	4.4	5.8	6.4	5.8	5.6	7.3	6.5	4.1	5.5	7.5	5.9	6.1	2.5	2.8	3.2	2.3	3.8	2.0	7.5	4.6	
28-Apr	3.5	1.9	3.6	0.9	0.3	0.4	3.6	6.0	6.8	6.9	6.7	5.5	4.3	5.9	7.2	7.4	6.3	3.8	1.6	3.1	3.8	1.8	2.1	1.8	7.4	4.0	
29-Apr	0.6	0.3	1.5	2.3	1.9	2.2	2.4	2.9	4.1	3.6	3.3	3.5	3.0	3.8	3.7	4.3	3.2	2.4	1.5	0.5	0.4	0.6	0.0	0.6	4.3	2.2	
30-Apr	1.2	3.7	5.9	6.2	4.5	2.0	2.0	3.1	4.1	3.4	2.6	3.5	2.5	2.9	3.8	3.7	2.9	1.9	0.6	0.4	0.2	0.0	0.2	0.5	6.2	2.6	
																								Maximum Hour/Monthly Average		13.8	3.6
																								Total Hours In Month		720	
																								Valid Hours/Percent Data Captured		720	100.0%

**Meteorological Report**  
**The Doe Run Company**  
**Wind Direction**

Site Name: Rivermines

Average Interval: 01 Hour

Units: Degrees

Sampling Frequency: 01 Second

2012	Hour																								24 Hour Avg
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Apr	216	187	219	194	265	267	257	267	244	235	231	225	228	227	232	219	224	209	194	184	191	193	199	203	221
2-Apr	206	207	197	198	174	187	7	102	137	220	106	99	82	91	114	103	110	145	155	171	183	188	202	218	150
3-Apr	180	157	159	236	210	10	211	238	202	202	208	217	175	191	202	201	198	355	320	81	67	219	225	194	194
4-Apr	198	176	17	181	187	335	349	10	50	29	55	0	354	19	86	24	41	13	332	344	314	304	219	196	159
5-Apr	209	237	210	4	27	8	3	41	14	344	353	18	8	10	359	1	357	340	352	350	281	158	156	5	160
6-Apr	17	11	15	18	33	355	339	23	54	39	35	42	48	48	31	48	59	54	64	140	177	182	177	169	91
7-Apr	188	197	183	187	339	219	360	163	163	149	196	118	72	205	236	239	216	197	184	210	233	218	300	320	212
8-Apr	319	315	323	322	339	335	320	357	26	35	32	16	40	85	27	121	125	141	123	171	226	194	206	219	184
9-Apr	232	236	240	239	240	231	244	290	329	369	354	353	326	326	315	285	315	316	318	219	166	166	178	203	271
10-Apr	192	181	286	201	236	270	358	358	354	338	346	341	325	333	330	321	336	345	337	324	196	188	200	231	269
11-Apr	236	209	249	310	335	291	315	354	18	33	7	336	3	8	360	15	30	39	52	73	100	161	186	202	163
12-Apr	164	349	179	231	221	212	224	3	161	191	174	129	153	154	178	148	195	176	164	164	161	165	158	133	174
13-Apr	155	148	154	164	154	151	148	151	152	158	136	85	25	44	119	145	144	147	160	154	157	164	167	158	139
14-Apr	142	350	47	95	116	172	185	335	336	145	192	194	203	209	203	200	195	192	193	191	183	181	181	180	192
15-Apr	188	189	192	193	199	192	202	192	194	190	192	186	180	184	178	177	178	170	199	239	238	219	198	216	195
16-Apr	208	209	217	217	216	231	247	254	267	281	279	287	290	295	293	306	305	319	321	174	165	188	222	204	250
17-Apr	193	187	227	219	220	209	231	236	11	30	41	55	71	105	88	82	86	96	119	149	154	162	241	172	141
18-Apr	157	169	173	159	339	224	187	105	149	179	165	157	161	222	209	216	203	186	172	179	181	187	192	187	186
19-Apr	169	170	144	239	358	13	355	32	170	202	190	170	169	174	166	170	175	188	184	190	186	173	174	193	181
20-Apr	221	213	209	219	232	239	256	271	316	327	331	322	328	331	334	334	340	338	332	336	344	323	328	342	299
21-Apr	356	358	356	354	358	4	4	1	5	7	17	5	357	345	2	356	339	352	12	186	189	198	187	203	190
22-Apr	191	12	161	223	48	52	202	188	264	338	353	354	346	326	334	343	343	341	347	333	319	324	337	324	268
23-Apr	187	186	227	237	227	230	265	332	337	338	336	329	331	325	318	315	309	327	320	305	227	234	244	247	280
24-Apr	253	257	244	252	243	225	238	256	252	243	237	236	222	223	228	217	210	206	204	190	177	201	219	227	227
25-Apr	228	223	251	175	210	20	188	348	176	182	210	184	186	188	200	193	184	173	175	17	185	230	216	225	190
26-Apr	248	242	253	231	206	254	266	319	337	348	336	342	346	342	344	348	352	355	6	44	173	49	53	256	
27-Apr	53	61	64	78	73	63	64	92	83	75	79	78	72	46	83	115	108	109	88	89	88	57	121	117	82
28-Apr	174	173	134	110	2	164	177	193	199	203	198	199	201	174	174	174	182	177	161	16	28	37	44	57	140
29-Apr	19	75	26	55	48	80	90	67	22	52	84	85	50	33	61	27	27	23	23	42	151	316	176	176	75
30-Apr	67	164	174	201	211	231	235	213	212	236	230	198	259	279	257	291	263	269	199	175	147	59	180	167	205
																								Total Hours in Month	720
																								Valid Hours	720
																								Percent Data Captured	100.0%

# Meteorological Report

## The Doe Run Company

ΣΘ

Site Name: Rivermines

Average Interval: 01 Hour  
Units: Degrees

2012	Hour																								24 Hour Avg
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Apr	14.7	17.6	10.4	5.5	8.6	5.1	8.0	18.5	30.0	25.4	28.0	23.8	26.6	22.5	25.9	24.3	22.4	15.4	11.0	14.1	15.6	15.2	14.7	15.0	17
2-Apr	15.3	13.5	10.3	15.7	2.1	3.8	2.1	9.4	30.1	40.8	45.7	33.3	28.8	27.8	33.8	27.2	23.3	23.0	18.1	18.0	14.6	14.8	13.7	13.7	20
3-Apr	2.3	7.1	9.0	8.0	15.7	9.9	2.4	27.7	23.1	23.7	22.2	33.1	25.8	23.7	24.9	19.4	21.1	26.9	27.5	20.1	24.3	43.6	12.3	14.7	20
4-Apr	12.3	1.0	1.8	8.4	8.2	34.7	15.0	28.3	26.3	23.1	30.0	19.1	18.3	28.4	32.2	21.5	27.4	18.5	28.1	24.4	46.1	27.9	6.5	6.7	20
5-Apr	4.7	10.1	9.9	20.2	20.4	19.4	16.6	16.6	18.7	20.2	19.0	18.5	17.7	19.1	18.2	17.4	17.3	16.1	11.4	8.1	5.4	1.1	12.5	12.1	15
6-Apr	19.0	9.8	21.7	15.0	19.7	18.8	13.1	22.9	31.8	29.7	30.8	31.2	34.8	33.5	31.2	31.9	33.9	28.0	18.2	5.5	3.1	0.6	6.5	6.6	21
7-Apr	0.9	3.3	7.1	2.1	2.5	12.1	10.8	23.3	28.1	33.1	39.7	55.0	61.7	52.4	33.5	32.0	22.7	9.8	2.6	11.2	6.1	9.4	18.6	19.0	21
8-Apr	19.8	20.5	15.3	14.2	14.0	13.3	11.6	19.7	29.5	29.1	43.2	33.3	48.6	62.8	38.3	48.0	33.9	26.6	5.1	1.1	6.5	13.7	3.4	18.4	24
9-Apr	17.2	13.5	12.1	11.9	15.1	18.2	11.8	20.8	19.1	22.3	24.5	31.1	36.5	31.9	36.6	36.4	21.6	18.2	10.0	4.7	9.1	1.9	1.6	0.6	18
10-Apr	3.1	4.1	17.0	1.0	11.9	11.2	14.9	18.9	21.8	25.1	22.5	28.6	28.1	27.3	25.9	24.3	19.7	18.6	15.3	5.5	3.8	5.3	4.4	12.1	15
11-Apr	16.0	7.1	20.9	19.7	12.6	16.6	15.9	21.2	24.7	31.4	40.8	52.9	37.9	31.1	36.3	30.5	29.0	25.1	17.5	8.4	3.7	5.7	3.9	6.5	21
12-Apr	0.7	3.3	2.7	7.5	11.3	9.6	8.6	14.6	28.6	27.0	33.8	37.2	41.2	42.0	34.8	54.1	29.8	16.6	16.6	17.8	16.4	13.5	14.2	21.5	21
13-Apr	17.8	21.2	22.1	23.6	21.4	23.8	24.0	24.1	23.6	21.5	27.9	26.9	27.1	30.5	28.1	23.0	30.5	26.9	23.6	23.5	21.5	22.2	22.2	24.0	24
14-Apr	29.6	17.5	21.8	19.9	18.7	23.8	27.3	27.6	26.3	28.5	20.7	18.2	20.0	20.5	21.4	21.6	18.8	18.1	17.5	17.4	17.5	19.4	19.6	20.3	21
15-Apr	18.3	17.7	18.7	19.0	20.0	20.2	20.1	21.4	19.2	21.0	20.9	21.6	23.1	21.1	21.8	23.3	22.7	22.8	22.7	24.0	24.3	21.2	20.1	32.2	22
16-Apr	30.0	19.4	20.3	20.2	19.3	22.8	27.1	28.9	34.0	35.8	35.8	35.3	37.4	37.4	36.1	37.1	29.8	21.9	10.3	1.5	2.4	6.9	9.0	7.2	23
17-Apr	7.8	10.2	17.0	19.7	18.6	16.3	19.7	24.4	24.0	38.9	47.4	33.6	40.8	37.4	47.9	41.1	37.5	26.9	21.2	17.7	16.3	22.0	23.5	5.3	26
18-Apr	3.8	2.8	4.4	5.7	1.3	15.1	19.6	17.7	29.1	28.0	32.7	42.1	35.9	35.6	39.3	33.9	27.5	21.1	19.4	17.5	18.4	16.7	14.4	15.5	21
19-Apr	16.4	8.0	14.2	24.5	0.2	4.9	5.7	23.3	27.8	24.8	27.9	27.3	30.0	29.7	27.1	25.3	24.3	19.2	19.1	14.2	15.3	17.3	43.9	10.4	20
20-Apr	25.3	21.7	20.2	20.8	24.1	17.7	8.3	20.7	25.0	19.1	20.2	21.9	20.8	20.9	19.2	20.3	21.1	18.7	18.8	18.6	17.9	17.7	18.0	17.5	20
21-Apr	17.4	17.1	18.2	19.1	17.3	17.9	17.2	18.5	21.4	21.1	27.4	28.7	39.2	47.9	33.1	36.1	22.9	18.5	17.7	5.7	2.4	26.0	13.0	8.8	21
22-Apr	11.6	52.3	37.2	17.4	28.4	55.5	11.8	21.3	32.6	37.0	17.8	19.0	21.3	22.4	20.0	21.3	19.6	18.8	17.4	16.3	15.5	15.4	16.2	26.3	24
23-Apr	1.3	0.7	4.7	15.3	17.2	19.7	24.7	19.9	20.0	22.4	24.3	24.5	28.3	27.9	26.7	27.1	30.4	22.4	17.0	14.2	4.9	13.9	8.6	5.5	18
24-Apr	7.9	3.3	6.5	5.0	1.5	9.2	18.7	22.6	32.4	26.9	27.5	35.0	24.7	26.4	25.5	23.5	22.0	18.8	15.9	12.5	5.3	9.1	11.1	11.1	17
25-Apr	12.6	7.9	10.3	2.1	0.6	2.1	8.2	13.3	23.6	45.2	48.9	19.4	22.9	23.1	22.8	23.9	25.9	26.6	23.6	19.8	31.3	13.5	10.7	13.0	19
26-Apr	15.7	21.5	24.1	32.3	24.2	16.9	36.4	33.3	24.0	21.8	26.8	25.8	26.3	25.4	21.6	21.6	20.0	17.2	17.7	17.6	14.2	4.7	34.0	31.7	23
27-Apr	28.6	33.0	32.4	29.7	28.3	29.6	29.7	28.1	28.4	32.7	32.7	27.9	29.5	44.9	30.7	26.7	26.8	24.2	47.8	25.6	24.0	25.4	24.1	27.4	30
28-Apr	29.8	39.1	18.9	13.1	7.2	16.3	23.9	22.4	22.6	22.4	22.7	23.5	32.2	26.8	26.8	25.7	21.3	24.9	17.5	33.6	20.8	26.2	23.5	27.2	24
29-Apr	8.8	6.9	19.1	27.2	24.1	23.9	25.9	30.0	24.4	32.8	32.9	33.2	34.2	32.2	28.6	26.9	26.4	25.3	42.0	6.4	11.9	26.1	1.5	10.5	23
30-Apr	25.6	18.7	19.2	19.3	18.9	16.5	39.5	25.0	21.7	26.7	35.5	27.4	37.0	43.5	36.7	37.3	41.6	32.1	14.3	3.2	7.9	0.0	6.9	28.4	24
																					Total Hours In Month			720	
																					Valid Hours			720	
																					Percent Data Captured			100.0%	



# Meteorological Report

## The Doe Run Company

### Temperature

Site Name: Rivermines

Average Interval: 01 Hour

Units: Deg. C

Sampling Frequency: 01 Second

2012 Day	Hour																								24 Hour	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Max	Avg
1-Apr	15	18	17	15	14	13	15	20	25	28	29	30	31	32	33	33	33	31	28	27	26	25	24	24	32.8	24.3
2-Apr	23	22	20	19	17	15	15	20	24	26	28	28	29	30	31	31	31	30	28	26	24	24	22	21	31.4	24.4
3-Apr	17	16	15	14	16	15	15	17	22	23	24	25	26	26	26	26	25	21	19	19	19	18	18	18	26.3	20.0
4-Apr	17	16	15	15	15	14	14	16	16	17	18	18	18	18	19	19	19	19	17	16	16	15	14	14	19.4	16.5
5-Apr	13	13	14	14	12	11	11	12	12	11	11	12	13	13	13	13	13	13	12	10	9	8	7	6	14.1	11.5
6-Apr	6	4	5	4	4	3	4	6	8	10	11	13	14	15	16	16	15	15	13	9	7	5	4	3	15.7	8.8
7-Apr	3	2	2	1	1	0	3	10	13	15	18	19	20	21	21	21	20	19	16	13	12	11	12	14	21.4	12.0
8-Apr	13	13	11	10	9	8	9	11	13	15	16	17	18	18	19	19	19	19	15	10	8	7	7	6	19.4	13.0
9-Apr	6	5	4	4	4	3	6	12	16	17	19	20	22	22	23	23	22	20	17	14	12	10	9	7	23.1	13.2
10-Apr	7	8	8	8	6	6	9	10	11	12	13	14	16	17	17	17	17	16	14	10	7	5	4	4	17.4	10.8
11-Apr	4	3	2	2	1	1	4	6	8	9	10	12	13	13	14	14	13	13	11	8	5	3	2	1	13.9	7.2
12-Apr	1	0	0	-1	-1	-1	1	5	11	13	14	15	16	17	18	18	18	17	15	14	13	12	12	12	18.3	9.9
13-Apr	12	12	12	12	12	12	12	13	12	11	11	11	10	10	10	10	11	12	12	13	13	14	14	14	14.4	11.9
14-Apr	14	13	12	11	11	15	16	15	14	16	19	22	24	25	26	26	26	25	24	23	22	22	22	22	26.3	19.4
15-Apr	21	21	20	20	20	20	20	20	21	22	23	23	23	24	24	24	24	24	23	15	14	14	13	12	24.2	20.2
16-Apr	12	12	13	13	13	12	12	12	13	14	17	18	19	20	21	21	20	19	16	12	10	9	8	7	20.7	14.2
17-Apr	7	8	6	6	5	5	7	11	14	17	18	19	19	19	20	20	20	19	17	15	13	11	9	8	19.6	12.9
18-Apr	7	6	6	5	4	4	7	12	16	18	20	21	22	23	24	24	24	22	20	18	16	15	15	14	24.0	15.1
19-Apr	14	11	9	8	8	8	10	14	19	22	23	24	24	25	25	25	24	23	21	19	17	17	17	15	24.9	17.5
20-Apr	16	17	18	18	17	16	16	14	13	11	10	10	10	10	10	9	9	9	9	8	8	8	8	8	17.9	11.8
21-Apr	8	8	7	7	7	7	7	8	9	11	12	13	14	15	16	16	16	15	13	9	8	6	5	5	16.1	10.1
22-Apr	5	5	6	5	5	5	7	10	12	13	11	11	12	12	13	13	13	12	11	10	9	8	7	4	12.9	9.1
23-Apr	3	2	2	1	1	1	5	9	11	13	14	15	16	16	17	16	16	15	13	10	8	7	6	6	16.7	9.4
24-Apr	5	4	4	3	3	3	8	14	18	19	22	23	24	25	26	24	24	24	21	18	15	15	15	13	25.8	15.5
25-Apr	13	13	12	12	13	13	14	18	20	19	18	22	25	27	26	27	27	26	25	22	20	18	18	18	27.6	19.4
26-Apr	19	21	20	19	18	18	21	22	23	24	25	27	27	28	27	27	26	24	22	20	18	15	17	16	27.7	21.8
27-Apr	15	14	13	12	11	10	10	10	11	11	12	13	13	11	10	11	12	13	13	13	13	13	12	12	14.8	12.1
28-Apr	13	13	13	12	11	12	18	21	23	25	25	26	27	26	26	26	24	24	23	22	20	19	19	19	27.0	20.2
29-Apr	18	18	17	18	17	17	16	17	17	16	17	18	21	22	23	23	23	23	22	20	18	18	17	16	23.5	18.7
30-Apr	17	18	20	21	20	19	19	21	23	22	21	21	22	24	23	24	24	23	20	17	16	15	14	14	23.7	19.9
																								Maximum Hour/Monthly Average	32.8	
																								Total Hours in Month	720	
																								Valid Hours	720	
																								Percent Data Captured	100.0%	

# Meteorological Report

## The Doe Run Company

### Site Pressure

Site Name: Rivermines

Average Interval: 01 Hour

Units: mmHg

Sampling Frequency: 01 Second

2012 Day	Hour																								24 Hour		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Max	Avg	
1-Apr	739	739	739	738	738	738	739	739	738	738	738	737	737	736	735	735	734	735	735	735	735	736	735	735	739	737	
2-Apr	735	736	736	736	737	737	739	738	739	739	739	739	739	738	738	737	737	737	738	739	739	740	740	740	740	738	
3-Apr	740	739	740	740	741	741	742	742	742	742	741	741	740	740	739	739	739	740	740	740	740	741	740	742	740		
4-Apr	740	739	739	739	739	739	739	739	740	740	739	739	738	738	737	737	737	738	739	739	738	737	737	740	738		
5-Apr	737	738	737	737	738	739	739	739	739	740	740	740	741	741	741	742	742	742	743	744	744	744	745	745	741		
6-Apr	748	748	748	747	747	748	749	749	749	749	749	749	749	748	748	748	748	748	748	748	749	749	749	749	748		
7-Apr	749	749	749	750	750	750	750	750	750	750	750	750	749	749	749	749	748	748	748	749	749	750	750	751	750		
8-Apr	751	751	751	752	753	753	753	753	753	753	753	752	751	751	750	750	749	749	749	749	749	749	749	749	751		
9-Apr	749	749	748	748	748	749	749	749	749	749	748	748	747	747	746	746	746	746	746	746	746	746	747	747	748		
10-Apr	747	747	747	747	748	748	749	749	750	749	749	749	748	748	747	747	747	747	747	747	748	748	748	748	748		
11-Apr	749	749	750	750	750	751	752	751	751	751	752	751	751	750	750	750	750	750	750	750	751	751	751	751	750		
12-Apr	751	751	751	751	751	752	752	752	751	751	750	750	749	748	748	747	747	747	747	747	747	748	748	748	749		
13-Apr	747	747	747	747	747	748	747	747	747	747	747	747	747	747	746	746	745	745	745	745	745	745	744	748			
14-Apr	745	745	745	744	743	743	744	743	745	745	744	743	742	742	741	740	740	740	740	741	741	741	740	740	742		
15-Apr	740	739	739	739	740	739	741	740	740	740	740	739	739	738	737	737	736	736	739	739	739	739	739	739	739		
16-Apr	739	739	739	740	741	742	744	743	745	746	748	748	747	747	747	747	748	749	749	750	750	751	751	751	746		
17-Apr	751	751	751	751	752	752	752	752	753	753	752	752	752	751	751	751	750	750	751	751	751	751	751	751	751		
18-Apr	750	750	750	750	750	750	750	751	750	750	749	748	747	747	746	746	745	745	745	745	745	745	745	745	748		
19-Apr	745	745	745	745	745	745	745	746	745	744	744	743	742	742	741	740	739	739	740	740	740	739	739	746			
20-Apr	739	738	738	738	738	738	740	739	741	741	742	742	743	743	743	743	743	743	744	744	744	745	745	745	742		
21-Apr	745	745	745	745	745	745	745	745	745	745	744	744	744	743	743	743	743	743	744	744	744	744	744	744	744		
22-Apr	743	743	743	742	742	742	742	743	742	743	743	744	744	744	744	745	745	746	746	746	747	747	747	748	744		
23-Apr	748	747	747	747	748	748	748	748	748	747	747	746	746	745	745	744	744	744	744	744	744	744	744	744	748		
24-Apr	743	743	743	743	743	743	743	743	742	742	741	740	739	738	737	737	737	736	736	736	737	737	737	737	740		
25-Apr	737	737	737	737	737	737	736	737	736	736	736	736	735	734	734	734	734	734	734	734	735	735	736	736	736		
26-Apr	736	737	737	737	738	739	740	740	741	741	742	742	742	742	742	742	742	742	742	743	743	744	744	745	741		
27-Apr	745	745	745	746	746	747	747	747	747	747	747	746	746	745	743	743	742	742	742	742	743	743	743	742	745		
28-Apr	741	741	741	741	741	741	741	741	741	741	742	741	741	741	741	741	741	741	742	743	744	744	744	744	742		
29-Apr	745	744	744	745	745	745	745	745	745	746	746	746	746	745	745	744	743	743	744	744	744	744	744	744	745		
30-Apr	744	744	743	744	744	744	744	744	744	744	743	743	743	743	743	743	743	743	744	744	744	744	744	744	744		
																								Maximum Hour/Monthly Average		753	744
																								Total Hours in Month		720	
																								Valid Hours/Percent Data Captured		720	100.0%

# Meteorological Report

## The Doe Run Company

### Precipitation

Site Name: Rivermines

Average Interval: 01 Hour  
Sampling Frequency: 01 Second

2012 Day	Hour																								24 Hour		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Max	Total	
1-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.47	0.01	0.00	0.00	0.03	0.01	0.47	0.55	
4-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.75	0.06	0.07	0.00	0.00	0.01	0.01	0.75	0.90	
5-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.09	0.30	0.04	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.30	0.53	
14-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.08	
15-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.11	0.18	0.26	0.07	0.02	0.26	0.77		
16-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.09	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.28	
21-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22-Apr	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.08	
23-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.06	
26-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.08	
28-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30-Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	
<b>Maximum Hour/Monthly Total</b>																								0.75	3.36		
<b>Total Hours In Month</b>																								720			
<b>Valid Hours/Percent Data Captured</b>																								720	100.0%		

